

REMARKS

Claims 1-18 will be pending upon entry of the present amendment. Claim 14 has been amended. No new matter has been added.

Objections to Drawings

The Examiner objected to drawings as “failing to comply with 37 CFR 1.84(p)(5) because they include ... reference character(s) not mentioned in the description.” Accordingly, drawings 1, 3B, 3F and 9F have been amended to clarify reference numbers and to more clearly correspond to the specification. No new matter has been added.

35 U.S.C. 102 Rejections

The Examiner has rejected claims 1-7 under 35 U.S.C. 102(b) as being anticipated by admitted prior art (“APA”, hereinafter).

The APA does not disclose the invention recited in claim 1. Claim 1 recites, *inter alia*, “A contact region ... comprised of the first semiconductor material, the contact region directly contacting the heterostructure alloy” The APA does not teach or suggest a contact region *directly* contacting the heterostructure. Figure 8 shows a germanium layer 90 that separates the contact region 7 from the emitter 4. It should be emphasized that Figure 8 is an enlarged detail view of the emitter 4 and base 3 regions shown in Figures 1 and 3F (see column 10, lines 14-15 of enclosed substitute specification). As a result, contact layer 7 is not in direct contact with the heterostructure region 4. Therefore, claim 1 is not anticipated by the APA and is allowable.

Claims 2-7 are allowable because they depend from claim 1 which is allowable for the reasons presented above. In addition, claim 2 recites that a first dielectric layer directly contacts the heterostructure alloy. Figure 8 shows that the prior art structure includes the germanium layer 90 intervening between the first dielectric layer 12 and the heterostructure alloy of the base 3. As a result, the APA does not disclose a dielectric layer that directly contacts the heterostructure alloy. Therefore, claim 2 is allowable apart from its dependence on claim 1.

Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 1, 3B, 3F and 9F. These sheets, which include Figures 1-14, replace the original sheets including Figures 1-14. No new matter has been added.

Attachment: Replacement Sheets

The Examiner has rejected claims 8-13 under 35 U.S.C. 102(b) as being anticipated by APA.

The APA does not disclose the invention recited in claim 8. Claim 8 recites a transistor that includes "a first dielectric layer positioned on, and directly contacting, the heterostructure alloy region." As discussed above with respect to claim 2, Figure 8 shows that in the APA device the dielectric layer 12 does not directly contact the heterostructure alloy base 3. Instead, the germanium layer 90 prevents such direct contact. Therefore, claim 8 is not anticipated by the APA.

Claims 9-13 are allowable because they depend from claim 8 which is allowable for the reasons presented above.

The Examiner has rejected claims 14-18 under U.S.C. 102(b) as being anticipated by APA.

The APA does not disclose the invention recited in claim 14. Claim 14 is directed to a transistor formed by a process that includes "forming by chemical vapor deposition a first dielectric layer of silicon dioxide on the substrate" As explained on pages 12-13 of the application, forming a first dielectric layer by chemical vapor deposition of silicon dioxide on a substrate in which a silicon/germanium alloy is formed, results in a product in which the first dielectric layer contacts the silicon/germanium alloy. As discussed above, the APA does not disclose such a product. Instead, the APA thermally grows the dielectric layer 12, which causes the germanium layer 90 to be formed between the dielectric layer 12 and the heterostructure alloy of the base 3. As such, the product formed by the APA is not the same product that is recited in claim 14. Accordingly, claim 14 is not anticipated by the APA.


Claims 15-18 are allowable because they depend from claim 14 which is allowable for the reasons presented above.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Application No. 10/615,084
Reply to Office Action dated November 17, 2004

All of the claims remaining in the application are now clearly allowable.
Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,
SEED Intellectual Property Law Group PLLC


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RXI/FXM:alb

Enclosure:

Postcard
Substitute Specification
Redlined Substitute Specification
17 Sheets of Drawings (Figures 1-14)

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